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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/516,274

02/29/2000

Victor Michael Aquaro

1-1-36-86

9602

7590

06/17/2004

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FAIRFIELD, CT 06430

EXAMINER

NGUYEN, TUAN N

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Applicati n N .</b>	<b>Applicant(s)</b>	
	09/516,274	AQUARO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tuan N Nguyen	2828	

**-- The MAILING DATE f this c mmunication appears n th cover sheet with th correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2828

***Response Appeal Brief***

1. In respond to applicant's appeal brief filed 04/26/2004. The Non-Final Office action mailed 02/13/2004 is vacated.

**FINAL**

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of 35 U.S.C. 102(b) which forms the basis for all obviousness rejections set forth in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1- 16 are rejected under 35 U.S.C. 102(b) as being unpatentable over Scifres et al. (US 4818062).

With respect to claims 1, 8, 15, 16 Scifres '062 shows in figures 1-4, 8, 11 a multimode tapered structure (F2: 17) for coupling a multimode laser (F2: 11, 45) (F2: 53)(F4: 27, 33), comprising an input end having an elliptical cross section for coupling with multimode laser (F2: 51, 47, 49, 11, 45), and output end having a circular cross section for coupling with said multimode fiber, cylindrical rod or other convenient shape (Col 6: 3-8) (F2: 53)(F4: 27, 33) (Fig 6,7: 67). He further show the multimode laser source having a rectangular aperture (F2: 11) (F8: 81), the multimode fiber having a core surrounded by a cladding (F2: 49). Since claim 15 recites the same or identical elements/limitations it is inherent to use patents ('062) to recite the method of coupling multimode laser to a multimode optical fiber, product by process.

With respect to claims 2-3, and 9-10, Scifres et al. '062 shows in figures 2, and 4 the elliptical cross section approximately matches the rectangular aperture of said laser (F1: 49), and

Art Unit: 2828

circular cross section approximately matches the core of the fiber, cylindrical rod or other convenience shape (Col 6: 5-7) (F4: 31), where tapered structure is smaller in dimension at input end to a larger dimension at output end (F2: 49, 53).

With respect to claims 5-6, and 12-13 Scifres et al. ('010) shows in figures 2, 8 and 11, the tapered structure has a numerical aperture and a length provide desired coupling efficiency (col 5: 39-40, 54-56) (F8: 103, 105, 107) (F10: 103, 105, 107.)

With respect to claims 4, and 11 Scifres '062 shows in figures 2:51 the elliptical cross section of the input and the circular output (F2: 53) of the taper region, where multimode tapered structure has a smaller dimension at input end, and a larger dimension at output end (Col 5: 20-24).

With respect to claims 7 and 14 Scifres et al. '062 discloses multimode tapered structure accepts highly elliptical beam shape and convert for acceptance by circular fiber. (Fig 2: 45, 53) (Fig 3: 31).

### Response to Argument

4. Applicant's arguments filed on 04/26/2004 have been fully considered but they are not persuasive. Without conceding to the propriety of the 04/26/04 argument, it is moot as the office action has been vacated. Likewise, the argument alleging the deficiency found in Rope et al (US 6252715) is no longer an issue ~~moot~~ since the rejection has been withdrawn.

gw  
6/11/04

Art Unit: 2828

5. As for the argument included in the 10/27/03 Appeal Brief suggesting that Scifres ('062) fails short on anticipating claims 1, 8 and 15 for teaching a "squashed" multimode structure, it has been found defective. Irrespective of how the elliptical input shape in Scifres comes into shape, the fact remains that it shows the identical elliptical shape as claimed. In fact, the issue of how Scifres' input shape is made is immaterial to the patentability determination, especially as it applies to an anticipation rejection. On the other hand, if one were to offer patentable distinction based upon the product made, Scifres still anticipates claims 1, 8 and 25 in that its elliptical input is designed to receive the elliptical shape of a multimode laser identical to that of the claimed invention. In short, Scifres clearly anticipates the claim by showing an elliptical input and circular output.

In an alternative argument raised in the 10/27/03 argument, it was said that Scifres '062 lacks multi-mode. This argument is flawed as line 23, column 6 clearly teaches the capability of Scifres '062 structure to a multimode laser. With respect to the comment suggesting how coupling of a multimode laser to a multiple fiber such as found in the preamble of claim 1 plays an important role in supporting separate patentability over Scifres, it deserves insignificant patentable weight as it merely recites an intended usage. Given the identical structure found in Scifres, the intended application as described in the preamble is clearly within its design. In addition, Scifres '062 disclosed that the wave guide is capable of couple to a medium in the form of cylindrical rod, or other convenient shape (Col 6: 3-8).

***Citation of Pertinent References***

Art Unit: 2828

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is cited primarily to show the product of the instant invention.

Scifres et al. US 4688884/ 4763975- '884 Fig1,2,3 showing a tapered structure having elliptical multimode input;

Severijns et al. US 4698084 - Fig 1b, 2a-c, 3b-d showing tapered multimode input;

Pan (US 5016963) – Fig 1-5; Sheem (US 5515464) – Fig 3, 7-25; Fidric et al. (US 6434302) – ABSTRACT & Fig 4-13c. ; others see attached 892 form.

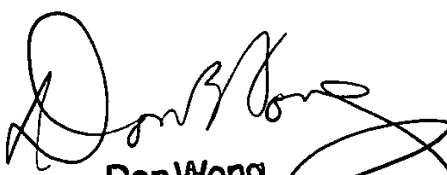
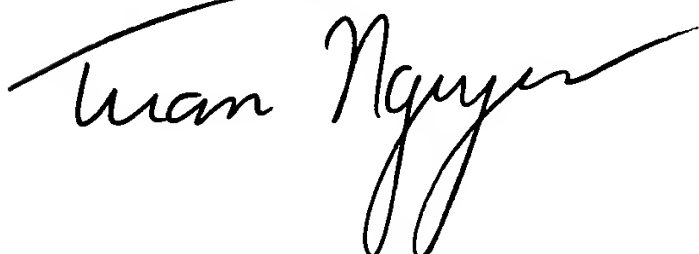
### ***Communication Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834 the fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9306.

Tuan N. Nguyen



Don Wong  
Supervisory Patent Examiner  
Technology Center 2800